Litigation under the United Nations Convention on the Law of the Sea

Litigation under the United Nations Convention on the Law of the Sea: Opportunities to support and supplement the climate change regime

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I. Introduction

It is now widely accepted that climate change is one of the most important challenges facing the international community and it demands 'urgent action'[2] to mitigate the significant risks posed to humankind and natural ecosystems. The international regime has evolved to demand that all states undertake 'ambitious efforts' to combat climate change with a view to holding the increase in the global average temperature to 'well below 2°C above pre-industrial levels' and to increasing the ability of the all states to adapt to the adverse impacts of climate change.[3]

The importance of the oceans in the climate change regime has also gradually been acknowledged, with the Intergovernmental Panel on Climate Change (IPCC) publishing a report in September 2019, which recognises the significant effects that climate change is having on the world's seas. The IPCC records the unabated warming of the oceans since 1970 and highlights that the oceans are thought to have taken up more than 90% of the excess heat in the climate system.[4] The melting of glaciers into the oceans has also affected the salinity of marine waters.[5] These events have had significant repercussions for marine ecosystems. Certain habitat types have been devastated by warming waters, with widespread evidence of tropical coral reefs being particularly badly hit. An outlook report on the Great Barrier Reef released in August 2019 officially classified the status of the reef as very poor, with sea temperature increases caused by climate change being a major driver of its decline.[6] A further mass coral bleaching event, caused by increased sea temperatures, was recorded in February 2020.[7] Nor is the Great Barrier Reef alone in being affected; according to a 2016 report, 'by the end of 2015, 32% of coral reefs worldwide had been exposed to thermal stress of 4 °C-weeks or more and almost all of the world's reefs had exceeded their normal warm-season temperatures.'[8] Yet, the consequences of climate change go far beyond coral reefs, with many marine species shifting their geographical range and seasonal activities in response to ocean warming, changes in biogeochemical conditions, and loss of habitat.[9] Whilst the precise impacts vary from region to region, these changes have implications for the whole planet,

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[2] UNGA Resolution 70/1, Transforming our World: the 2030 Agenda for Sustainable Development, 21 October 2015, Goal 13.

[3] Paris Agreement (concluded 12 December 2015, entered into force 4 November 2016) Article 2.

[4] IPPC, *The Ocean and Cryosphere in a Changing Climate: Summary for Policy Makers* (24 September 2019) para A2.

[5] Ibid, para A6.

[6] Great Barrier Reef Authority, *Great Barrier Reef Outlook Report 2019* (2019).

[7] See <https://www.bbc.co.uk/news/world-australia-52043554> accessed 30 April 2020.

[8] C Mark Eakin et al, 'Global Coral Bleaching 2014-2017: Status and Appeal for Observations' (2016) *Reef Encounter: The News Journal of the International Society of Reef Studies* 20, 23.

[9] IPPC (n 4) para A5. For a study of distributional shifts in fish stocks in the North-East Atlantic, see International Council for the Exploration of the Seas, *Report of the Working Group on Fish Distribution Shifts* (2017).

because of the vital ecosystem services provided by the oceans at the local, regional and global levels.[10]

In addition to the direct impacts of climate change, the ocean has also undergone significant acidification through the absorption of carbon dioxide (CO_2) into the water column.[11] The primary casualties of ocean acidification are those marine species who rely upon calcification to form their physical structures – eg corals and crustaceans – but emerging scientific research suggests that there may be broader impacts on the behaviour of marine species because of the way that acidification alters the cycling of nutrients, elements and compounds in the water column.[12]

The only way of tackling the climate change impacts on the oceans in the long-term is through the reduction of greenhouse gas (GHG) emissions (eg CO_2, methane, nitrous oxide) into the atmosphere, although impacts may be reduced through adaptation measures, which increase the resilience of marine ecosystems in the short-term. The oceans may also provide some solutions to climate change, through the opportunities to store captured carbon dioxide in sub-sea geological formations or through the use of geo-engineering techniques, although these technological innovations must be approached with care in order to ensure that they do not cause other types of harm to marine ecosystems.[13]

Perhaps surprisingly, the oceans have not featured prominently in discussions on mitigation and adaptation under the United Nations Framework Convention on Climate Change (UNFCCC) until very recently. The 'Because the Ocean Initiative' was launched at the 21st Conference of the Parties (COP) in 2015 as a means to raise awareness of the interlinkages between the climate change regime and the oceans with a view to 'enhanc[ing] global ocean resilience to the impacts of CO_2 emissions and climate change.'[14] Momentum has grown through a number of formal and informal initiatives.[15] The 25th COP held in Madrid in December 2019 was heralded by the organisers as a 'blue COP', although the final conference decisions do little more than initiate yet another 'dialogue on the oceans and climate change to consider how to strengthen mitigation and adaptation action in this context.'[16] Indeed, the climate regime is a long way from producing the commitments necessary to meet its objective; a recent UNEP report reveals how current commitments would lead to greenhouse gas emissions in 2030 being 38% higher than required to meet the 1.5°C goal.[17]

It is the slow progress through these political processes which leads to discussions about how other legal frameworks may be able to stimulate action on climate change and what contributions litigation could make. The question to be addressed in this chapter is how the

[10] See L Inniss, A Simcock et al, *First Global Integrated Marine Assessment* (United Nations 2016) chapters 3-9.
[11] IPPC (n 4) para A2.5.
[12] Royal Society, *Climate Change Evidence and Causes: Update* (2020) 17. See also SJ Hennige, JM Murray, and P Williamson (eds) *An updated synthesis of the impacts of ocean acidification on marine biodiversity* (CBD Technical Series No 75, 2014).
[13] See section IV below.
[14] First Because the Ocean Declaration (2015): <https://www.becausetheocean.org/> accessed 9 June 2020.
[15] See also the Roadmap to Oceans and Climate Action (ROCA) Initiative:< https://roca-initiative.com/ >accessed 8 June 2020; The Ocean Pathway: <https://cop23.com.fj/the-ocean-pathway/> accessed 8 June 2020.
[16] COP Decision 1/CP.25, Chile Madrid Time for Action, Document FCCC/CP/2019/13/Add.1, 15 December 2019, paras 30-31.
[17] See UNEP, *Emissions Gap Report 2019*, available at <https://www.unenvironment.org/resources/emissions-gap-report-2019> accessed 30 April 2020.

law of the sea regime can contribute to tackling climate change and particularly how the dispute settlement system under the United Nations Convention on the Law of the Sea (UNCLOS)[18] may be used in order to promote action on this front. UNCLOS is an obvious focus, not only because of its widespread acceptance and its overarching framework for marine environmental protection, but also because it permits unilateral recourse to international courts and tribunals for most marine environmental disputes. Section II of the chapter will give a brief background to UNCLOS as the so-called 'constitution for the oceans'[19] and what options for dispute settlement it provides. Sections III and IV will consider which provisions of UNCLOS could be invoked in order to address climate change mitigation. Section V concludes by reflecting upon additional factors that might influence the success of a litigation strategy, as well as the limitations on this course of action.

II. UNCLOS Dispute Settlement

UNCLOS is the central pillar of the international legal framework for the oceans, laying down rules on the jurisdictional framework that governs the regulation of most maritime activities. At the time of writing, UNCLOS had been accepted by 168 parties, including most coastal and maritime states.[20]

The importance of the Convention is not only the rules that it contains, but the inclusion of a system for the compulsory settlement of most disputes arising thereunder.[21] In this respect, UNCLOS can be contrasted with the major climate change treaties, which make binding dispute settlement optional and rely upon conciliation as the main method of dispute settlement.[22]

Whilst dispute settlement under UNCLOS is generally compulsory, there is no single forum which is competent to hear disputes. Rather, UNCLOS invites states to nominate one of the four following dispute settlement forums when they sign, ratify or accede to the Convention:

- the International Tribunal for the Law of the Sea;
- the International Court of Justice;
- an arbitral tribunal constituted in accordance with Annex VII; or
- a special arbitral tribunal constituted in accordance with Annex VIII.[23]

Disputes may be submitted to any forum nominated by both the applicant state and the respondent state.[24] If the states concerned have not nominated the same forum or if they have not nominated any forum at all, a dispute can only be submitted to Annex VII arbitration.[25] In practice, only 54 UNCLOS parties have made a declaration indicating their choice of forum, meaning that Annex VII arbitration is likely to be the default forum for most disputes,

[18] UNCLOS (concluded 10 December 1982, entered into force 16 November 1994).

[19] See T Koh, 'A Constitution for the Oceans', available at <https://www.un.org/depts/los/convention_agreements/convention_overview_convention.htm> accessed 4 June 2020.

[20] See< https://www.un.org/depts/los/reference_files/chronological_lists_of_ratifications.htm> accessed 9 June 2020

[21] UNCLOS (n 18) Part XV.

[22] See United Nations Framework Convention on Climate Change (UNFCCC) (concluded 9 May 1992, entered into force 21 March 1994) Article 14; Paris Agreement (n3) Article 24.

[23] UNCLOS (n 18) Article 287(1).

[24] Ibid, Article 287(4).

[25] Ibid, Article 287(3) and (5).

although it is open to the parties to agree upon an alternative forum[26] or even to transfer proceedings to a different forum once Annex VII arbitration has commenced.[27]

Whichever forum is chosen to hear a dispute, the scope of jurisdiction is prescribed by Article 288, which limits an UNCLOS court or tribunal to deciding 'disputes concerning the interpretation or application of this Convention which is submitted to it in accordance with this Part.'[28] Courts and tribunals have emphasised that this limitation means that they do 'not have jurisdiction to determine breaches of obligations not having their source in the Convention'[29], but it has also been recognised that courts and tribunals may 'rely on primary rules of international law other than the Convention in order to interpret and apply particular provisions of the Convention.'[30] Such systemic interpretation has been particularly emphasised in disputes concerning Part XII on the Protection and Preservation of the Marine Environment; the Tribunal in the *South China Sea Arbitration* made clear that the content of Part XII was 'informed by […] other applicable rules of international law.'[31]

The need for the systemic interpretation of Part XII offers many opportunities for understanding UNCLOS in light of the broader international legal framework on climate change, which will be explored in the following sections. However, the potential overlap of the two independent legal regimes also raises questions about states' ability to pursue litigation under UNCLOS. In the *Southern Bluefin Tuna Arbitration*, the tribunal ruled that it did not have jurisdiction over a dispute impinging upon both UNCLOS and the Convention on the Conservation on Southern Bluefin Tuna because the latter instrument implicitly excluded the possibility of compulsory arbitration.[32] Yet, this decision has proven controversial[33] and the tribunal in the *South China Sea Arbitration* took the view that even though it is 'true that the same facts may implicate multiple treaties'[34], 'a dispute under UNCLOS does not become a dispute under [another treaty] merely because there is some overlap between the two.'[35] This latter view is more convincing and it opens the door to pursuing litigation on climate change under UNCLOS, despite a parallelism of treaty regimes.[36] This leads us to questions about what potential claims may be made under UNCLOS.

III. Invoking UNCLOS to support action under the climate change regime

UNCLOS was negotiated at a time when climate change had not yet been acknowledged as a major threat by the international community and therefore it is no surprise that it does not expressly mention climate change. Nevertheless, Part XII of UNCLOS was drafted to be

[26] Ibid, Article 287(4).
[27] See eg *M/V Saiga (No 2)*, ITLOS Case No 2, Order, 20 February 1998; *M/T San Pedro Pio*, ITLOS Case No 27, Order, 7 January 2020.
[28] UNCLOS (n 18) Article 288(1).
[29] *Duzgit Integrity*, PCA Case No 2014-07, Award, 5 September 2016, para 207.
[30] Ibid, para 208.
[31] *South China Sea Arbitration (Merits)*, PCA Case No 2013-19, Award, 12 July 2016, para 941.
[32] *Southern Bluefin Tuna Arbitration (Jurisdiction and Admissibility)*, Award, 4 August 2000.
[33] See e.g. J Peel, 'A Paper Umbrella which Dissolves in the Rain? The Future for Resolving Fisheries Disputes under UNCLOS in the Aftermath of the Southern Bluefin Tuna Arbitration' (2002) 3 *MJIL* 53;
[34] *South China Sea Arbitration (Jurisdiction and Admissibility)*, PCA Case No 2013-19, Award, 29 October 2015, para 284.
[35] Ibid, para 285.
[36] See further AE Boyle, 'Litigating Climate Change under Part XII of the LOSC' (2019) 34 *IJMCL* 458, 475-477.

flexible and to accommodate emerging threats to the marine environment.[37] To this end, the obligation to prevent, reduce and control pollution of the marine environment applies to 'all sources'[38] and the definition of pollution is broad, covering 'the introduction by man, directly or indirectly, of substances or energy into the marine environment, including estuaries, which results or is likely to result in […] deleterious effects [...]'[39] It is plain that the impact of climate change on the oceans falls within this definition, particularly by the introduction of heat, a source of energy, into the oceans.[40]

Of course, the obligation in UNCLOS is not to prevent all pollution of the marine environment, but rather it is an obligation of due diligence[41], meaning that states must take appropriate action to prevent foreseeable marine environmental harm. Due diligence obligations are by their very nature flexible and they must be interpreted on a case-by-case basis, taking into account, inter alia, the nature of the threats posed by a particular source of pollution and the capacities of an individual country to address those threats.[42] Due diligence must also now be understood as demanding a precautionary approach, meaning that it is not necessary to prove with absolute certainty the likelihood of harm, as the obligation to act will be triggered when there are 'plausible indications of potential risks.'[43] As recently held by the Dutch Supreme Court in the *Urgenda* litigation, 'the precautionary principle therefore means that more far-reaching measures should be taken to reduce [GHG] emissions, rather than less-far reaching measures.'[44] Due diligence is also a dynamic concept so that the content of the obligation 'change[s] over time as measures considered sufficiently diligent at a certain moment may become not diligent enough in light, for instance, of new scientific or technological knowledge.'[45]

An important factor to be taken into account when deciding what action is required as a matter of due diligence is the existence of any applicable international legal obligations. When it comes to adopting national measures to prevent, reduce and control pollution of the marine environment from land-based activities or from or through the atmosphere, UNCLOS expressly requires states to take into account any 'internationally agreed rules, standards, and recommended practices and procedures.'[46]

Despite the weak language of this rule of reference, when states are bound by those other international rules, it can be argued that states are obliged to apply them as a minimum standard for action under UNCLOS.[47] Thus, when the Kyoto Protocol was the principal legal instrument regulating the emissions of developed economies, it was relatively straightforward

[37] J Harrison, *Saving the Oceans through Law* (OUP 2017) 27; C Redgwell, 'Treaty Evolution, Adaptation and Change: Is the LOSC "Enough" to Address Climate Change Impacts on the Marine Environment?' (2019) 34 *IJMCL* 440-457.
[38] UNCLOS (n 18) Article 194(3).
[39] UNCLOS (n 18) Article 1(1)
[40] Harrison (n 37) 255; Boyle (n 36) 462; T Stephens, 'Warming Waters and Souring Seas', in D Rothwell et al (eds), *Oxford Handbook on the Law of the Sea* (OUP 2015) 783.
[41] *South China Sea Arbitration (Merits)* (n 31) para 944.
[42] See Harrison (n 37) 28-29.
[43] *Responsibilities and Obligations of States Sponsoring Persons and Entities with Respect to Activities in the Area,* ITLOS Case No 17, Advisory Opinion, 1 February 2011, para 131.
[44] *The State of the Netherlands v Stichting Urgenda*, Case No 19/00135, Judgment, 20 December 2019, para 7.2.10. See also the Chapter on Climate Change Litigation in The Netherlands by C Bakker in this volume.
[45] *Responsibilities and Obligations of States Sponsoring Persons and Entities with Respect to Activities in the Area* (n 43) para. 117.
[46] UNCLOS (n 18) Articles 207(1) and 212(1).
[47] Boyle (n 36) 468.

to argue that the targets agreed by states in that instrument provided a benchmark against which to judge the action of states to combat climate change under Part XII of UNCLOS. Indeed, given that the targets under the Kyoto Protocol were part of a multilateral agreement, Boyle convincingly argued that 'it seems very likely that any tribunal would […] be reluctant to require more of States than they have agreed to under Kyoto [...].'[48] Moreover, linking implementation of UNCLOS commitments on the protection of the marine environment to the Kyoto Protocol was only possible for those parties having binding commitments under the latter instrument, which did not cover certain major emitters, such as the United States of America or China.

A slightly different line of argumentation is required for the targets adopted for the second implementation period of the Kyoto Protocol under the Doha amendment. This amendment lays down individual quantitative reduction targets for a number of industrialised states for the period 1 January 2013 to 31 December 2020. Given that this amendment has not entered into force and no states have formally agreed to provisionally apply it, states are not *obliged* to meet this standard in the same way as they were obliged to meet their commitments for the first commitment period under the Kyoto Protocol. Despite the fact that they are not legally binding, the targets in the Doha amendment can arguably be still counted as 'international rules and standards' or (more likely) 'recommended practices and procedures' for the purposes of Articles 207 and 212 of UNCLOS, meaning that they at least have to be 'taken into account' when deciding what action is required under these provisions. In this context, it is worth noting that the decision adopting the amendments reinforces that the amendments do not rely exclusively on their entry into force for their normative value; the decision says that parties 'will implement their commitments and other responsibilities in relation to the second commitment period, in a manner consistent with their national legislation or domestic processes, as of 1 January 2013 and pending the entry into force of the amendment.'[49] Yet, neither this decision, nor the rule of reference in UNCLOS, demand absolute compliance with the Doha amendment, as they both clearly give some flexibility to take alternative measures. Nevertheless, the fact that the Doha amendment was multilaterally agreed means that it provides strong evidence of what is required by due diligence. A state wishing to unilaterally depart from this target would have to provide a clear justification for its position in order to convince a court or tribunal that the target agreed by the international community should be lowered. Indeed, it is important to observe that the targets included in the Doha amendment are envisaged as a minimum and states are encouraged to unilaterally 'revisit' its target and 'increase the ambition of its commitment.'[50] In this respect, the Doha targets can be contrasted with the original targets in the Kyoto Protocol and it is therefore possible to argue that states may need to go above and beyond the levels set out in the Doha amendment in order to meet their due diligence obligation under UNCLOS. Of course, in this context, the claimant state would have to convince a court or tribunal that the multilaterally agreed standard was insufficient to meet the due diligence obligation in UNCLOS. The greatest drawback of interpreting UNCLOS in light of the Doha amendment is that several industrialised countries opted out – namely Canada, Japan, New Zealand and the Russian Federation[51] – and so it only covers a minority of global emissions[52], limiting its usefulness as a benchmark for due diligence.

[48] AE Boyle, 'Law of the Sea Perspectives on Climate Change' (2012) 27 *IJMCL* 831, 836.
[49] COP Decision 1/CMP.8, para 6.
[50] Ibid, para 7.
[51] See ibid, footnotes 13-16.
[52] See B Mayer, The Curious Fate of the Doha Amendment, EJIL Talk!, 4 May 2020, available at< ejiltalk.org/the-curious-fate-of-the-doha-amendmen/> accessed 9 June 2020.

What about climate change action in the post-2020 period? Under the Paris Agreement, the rigid differentiation between industrialised countries and developing countries has been dropped and all states are now expected to take mitigation action, even if developed economies should still take the lead.[53] This potentially increases the opportunities for climate change litigation linked to the climate change regime. At the same time, the Paris Agreement introduces a fundamental shift in the international community's response to climate change, by moving from a top-down regime of targets and timetables to a bottom-up system of pledge and review.[54] Thus, states are to set their own targets through so-called Nationally Determined Contributions (NDCs).[55] These documents are far more complex than the commitments under the Kyoto Protocol or the Doha amendment. Whereas the Paris Agreement itself provides few details about the content of NDCs and the final 'rules' on the communication of NDCs have not yet been adopted, it would appear that states have significant flexibility for determining their approach[56], as is demonstrated by the variety in NDCs that have been communicated to date. For example, some countries have indicated quantified emissions reduction targets[57] whereas other countries have indicated emissions limit targets[58] or maximum growth rates.[59] In contrast, some NDCs have indicated a target range for reductions, rather than a precise target[60] or they have distinguished between 'binding targets' and 'indicative targets'[61] or 'unconditional' and 'conditional' contributions.[62] Some NDCs also outline the detailed measures that the state intends to take in order to achieve the target.[63]

As well as substantive differences to previous commitments under the climate change regime, the unilateral NDCs also have a different legal character from the obligations of result embedded in the Kyoto Protocol and the Doha amendments. The key obligation in the Paris Agreement requires that each party 'prepares, communicates and maintains successive nationally determined contributions that it intends to achieve' and it further provides that 'parties shall pursue domestic mitigation measures, with the aims of achieving the objectives of such contributions.'[64] Most commentators agree that the Paris Agreement establishes an obligation of conduct for states to take appropriate measures to achieve their NDCs.[65] In other words, states are not legally bound to achieve any target in their NDC, as long as they exercise their best efforts to do so. Furthermore, the description of specific measures within an NDC does not commit a state to taking those particular measures, as they are not part of the objective of the NDC.

[53] Paris Agreement (n 3) Article 4(4).

[54] For further discussion, see A Savaresi, 'The Paris Agreement and the Future of the Climate Regime', in G Ulrich et al (eds), *How International Law works in Times of Crisis* (OUP 2019) 189-205.

[55] Paris Agreement (n 3) Article 3.

[56] See eg COP Decision 1/CP.21, para 27.

[57] Eg Switzerland NDC (18 February 2020): 50 percent by 2030 compared to 1990 levels; New Zealand NDC (22 April 2020): zero net emissions of greenhouse gases (other than biogenic methane) by 2050; Japan NDC (31 March 2020): 26.0% reduction by FY 2030 compared to FY 2013.

[58] Eg Singapore NDC (30 March 2020): an economy-wide absolute GHG emissions limitation target to peak its GHG emissions at 65 MtCO2e around 2030.

[59] Eg Oman NDC (21 May 2019).

[60] Eg Kyrgyzstan NDC (17 February 2020): reduce GHG emissions in the range of 11.49 - 13.75% below business as usual in 2030 and in the range of 12.67 - 15.69% below business as usual in 2050.

[61] Eg Marshall Islands NDC (21 November 2018).

[62] Eg Rwanda NDC (5 October 2016).

[63] Eg Uzbekistan NDC (8 November 2018); Canada NDC (10 May 2017).

[64] Paris Agreement (n 3) Article 3(2).

[65] Savaresi (n 56) 201; Mayer (n 54); C Voigt, 'The Paris Agreement: What is the standard of conduct for parties? (2016) 26 *Questions of International Law* 17-28.

Based upon the preceding analysis, it is not possible to argue that NDCs provide a definitive statement of what states must do in order to meet their due diligence obligations under UNCLOS. If states can justify a failure to reach their stated targets under the Paris Agreement, then such justifications will also be relevant to deciding whether they have complied with their UNCLOS obligations. Nevertheless, the NDC can still be used as strong *evidence* of what action may be appropriate to tackle climate change for the purposes of UNCLOS. After all, NDCs represent a statement of what that state considers to be an appropriate contribution to the global mitigation objective at a particular point in time. Such statements must be presumed to have been made in good faith and therefore they can be considered to constitute prima facie evidence of an appropriate standard for due diligence. Nevertheless, it is open to states to produce evidence as to why they have failed to meet the objectives in their NDC or as to why their NDC is not an appropriate standard. Yet, the value of litigation in this context is precisely the opportunity to engage with a state on these questions in a judicial forum with clear standards and procedures for presenting evidence and an independent arbiter to decide the issue in an authoritative manner.

Nor is UNCLOS litigation necessarily restricted to promoting compliance by a state with its own NDC. It may also be possible to argue that a NDC does not go far enough in order to meet the autonomous due diligence standard under UNCLOS. Unlike the multilateral character of the commitments under Kyoto, NDCs lack the endorsement of other states and therefore they cannot be considered as a definitive understanding of what is demanded by due diligence in the context of climate change. Indeed, the Paris Agreement itself indicates that individual NDCs must be adapted over time, with successive NDCs gradually increasing the level of ambition.[66] The relatively frequent timetable for reappraisal of NDCs as well as the regular progress reports required by the Agreement[67] provide valuable opportunities to consider whether states have done enough to develop their climate change mitigation plans, with the possibility of legal action under UNCLOS if there is a lack of action or a failure to demonstrate ambition. For example, it has been argued that 'a comparison could be made with the best performers in a similar situation'[68] and, in this respect, the public registry of NDCs[69] provides a valuable source of contextual information in order to compare the action of a single state against its peers in order to demonstrate a tardiness or lethargy in climate action. It must be stressed that, in this case, an UNCLOS court or tribunal is not being called upon to decide precisely what action is required by a particular state, but rather whether or not a state has done enough to meet its due diligence obligation. We will return to this important distinction in the conclusion.

IV. Invoking UNCLOS to supplement action under the climate change regime

One criticism of the climate change regime has been its exclusive focus on reducing emissions, without consideration of other issues. In this section, we will consider how litigation under UNCLOS could be used to ensure that states take broader environmental issues into account when developing their climate change policies.

The first major omission from the climate change regime is its failure to expressly acknowledge the problem of ocean acidification, despite the fact that it is caused by one of

[66] Paris Agreement (n3) Article 4(3).
[67] Ibid, Article 13.
[68] Boyle (n36) 474.
[69] <https://www4.unfccc.int/sites/ndcstaging/Pages/Home.aspx> accessed 9 June 2020.

the principal GHGs also responsible for climate change, namely CO_2.[70] By itself, the climate change regime does not require action against ocean acidification, as CO_2 is only one of the bundle of GHGs that may be regulated by states in order to meet their commitments under the Paris Agreement. There may even be an incentive to focus GHG reductions on other gases, such as methane, 1kg of which is equivalent to 25kg of CO_2. In extremis, Stephens observes that 'states […] may even increase CO_2 emissions, so long as there is a corresponding reduction in other GHGs.'[71] Indeed, despite the growing awareness of this issue, ocean acidification continues to be treated as a low priority. Very few states have explicitly addressed this issue in their NDCs.[72] Oral rightly points out that collective action will ultimately be needed and she argues that 'the UNFCCC regime appears to provide the more suitable framework for the collective action necessary to mitigate emissions of carbon dioxide causing ocean acidification.'[73] The question to be addressed here is what role litigation may play as a spur for such action.

Whilst ocean acidification is not mentioned by UNCLOS, there is little doubt that the absorption of CO_2 by the oceans qualifies as marine pollution under UNCLOS and therefore states are under a due diligence obligation to take appropriate action.[74] It follows that a state which chooses to predominantly concentrate its GHG emission reductions on other gases, whilst not addressing its CO_2 emissions, may not be compliant with its UNCLOS obligations, even if it was not in breach of the Paris Agreement.[75] It is obviously difficult to pinpoint a particular level of CO_2 reductions that might be required from an individual state in the absence of any globally agreed targets or unilateral commitments. Nevertheless, it is still possible to argue that in order to satisfy their due diligence obligation, states must be able to demonstrate that they have considered their contribution to ocean acidification and they have reflected this element in their overall emissions reductions policies in a precautionary manner. In other words, UNCLOS requires at a minimum that states can demonstrate that they have quantified their contribution to ocean acidification and they have adopted what they consider to be appropriate measures to mitigate any damage. Without even acknowledging their contribution, states cannot be considered to be acting diligently.

UNCLOS may play a similar role in ensuring that measures taken to combat climate change do not have a detrimental impact on marine ecosystems. It is broadly accepted that so-called negative emissions reduction technologies may need to used to meet the global temperature targets under the Paris Agreement[76], with marine carbon capture and storage[77] and marine geo-engineering having both been highlighted as being particularly promising in this respect. Yet, states must take into account the potential impacts of these strategies on the marine environment. It has been recognised for some time that efforts to address climate change

[70] See eg ER Harrould-Kolieb, 'Ocean Acidification and the UNFCCC: Finding Legal Clarity in the Twilight Zone' (2016) 6 *WJELP* 612.
[71] T Stephens, 'Warming Waters and Souring Seas', in D Rothwell et al (eds), *Oxford Handbook on the Law of the Sea* (OUP 2015) 786.
[72] See T Stephens, 'The Role and Relevance of Nationally Determined Contributions under the Paris Agreement to Ocean and Coastal Management in the Anthropocene' (2018) 33 *Ocean Yearbook* 250, 263.
[73] N Oral, 'Ocean Acidification: Falling between the Legal Cracks of UNCLOS and the UNFCCC' (2018) 45 *ELQ* 9, 29.
[74] See Harrison (n 37) 257; KN Scott, 'Ocean Acidification: A due diligence obligation under the LOSC' (2020) 35 IJMCL 382, 393.
[75] See ibid, 402.
[76] Eg RS Haszeldine et al, 'Negative emissions technologies and carbon capture and storage to achieve the Paris Agreement commitments' (2018) A376 *Philosophical Transactions of the Royal Society* 20160447.
[77] See eg IPCC, *Special Report on Carbon Dioxide Capture and Storage* (2005). Carbon capture and storage is already a key element of some states' NDCs; see e.g. Saudi Arabia NDC; Norway NDC.

could end up having negative effects on biodiversity, if not carried out sensitively.[78] A recent study by the Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection (GESAMP) indicated that significant gaps in scientific knowledge exist in relation to marine geo-engineering[79] and, as noted by Scott, 'to the extent that they involve increasing ocean reservoir of CO_2, deliberately through fertilisation or naturally through a focus on solar radiation management rather than emissions control, geo-engineering is likely to make ocean acidification much worse.'[80] Even the relatively less controversial option of sequestering CO_2 in sub-sea geological formations could have negative marine environmental impacts if certain precautions are not taken to, inter alia, prevent leakage of stored CO_2. The preamble of the Paris Agreement does expressly mention the 'importance of ensuring the integrity of all ecosystems, including oceans, and the protection of biodiversity […] when taking action to address climate change', but it contains no substantive obligations on this subject. It is in this respect that UNCLOS may provide some basic rules that regulate the use of these technologies in order to ensure that climate change mitigation is sensitive to protecting marine ecosystems.

In the first place, Article 196(1) provides that 'states shall take all measures necessary to prevent, reduce and control pollution of the marine environment resulting from the use of technologies under their jurisdiction or control' and Article 195 reiterates that 'in taking measures to prevent, reduce and control pollution of the marine environment, States shall act so as not to transfer, directly or indirectly, damage or hazards from one area to another or transform one type of pollution into another.' Moreover, any activity which states have reasonable grounds for believing may cause substantial pollution of or a significant and harmful changes to the marine environment' must be subjected to an environmental impact assessment (EIA).[81] This important procedural tool must be applied, whether or not there is a transboundary impact from the proposed activity.[82] The purpose of an EIA is to ensure that states have sufficient information in order to inform their decision-making process and to take appropriate mitigation measures in accordance with their overarching due diligence obligation to protect the marine environment.

These general provisions must be read in light of the UNCLOS provisions on dumping, which require parties to adopt laws and regulations 'no less effective in preventing, reducing and controlling such pollution than the global rules and standards.'[83] This rule of reference is generally understood to incorporate the relevant provisions of the 1972 London Dumping Convention[84] and the parties to the latter treaty have adopted a number of decisions relating to both carbon capture and storage and geo-engineering, which may be used to further guide decision-making by parties to UNCLOS.

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[78] See eg TWR Powell and TM Lenton, 'Scenarios for future biodiversity loss due to multiple drivers reveal conflict between mitigating climate change and preserving biodiversity' (2013) 8 *Environmental Research Letters* 025024. See also Convention on Biological Diversity COP Decision 14/5, *Biodiversity and Climate Change* (2018).

[79] GESAMP, *High Level Review of a Wide Range of Proposed Marine Geoengineering Techniques* (GESAMP Reports and Studies No 98, 2019).

[80] KN Scott, 'Engineering the 'Mis-Anthropocene': International Law, Ethics and Geoengineering' (2018) 29 *Ocean Yearbook* 61, 68-69.

[81] UNCLOS (n 18) Article 206.

[82] Harrison (n 37) 32.

[83] UNCLOS (n 18) Article 210(6).

[84] See Harrison (n 37) 100.

Firstly, in 2012, the parties to the London Dumping Convention adopted specific guidelines for the assessment of CO_2 for disposal into sub-seabed geological formations.[85] This guidance is intended to ensure that states take an appropriate range of considerations into account before authorising the storage of CO_2 in sub-sea geological formations, including the risks of leakage. The guidance makes it clear that storage of CO_2 should only take place in sub-seabed geological formations and dumping of CO_2 in the water column is never appropriate, as it is likely to cause further ocean acidification.[86] Whilst non-binding, states can demonstrate that they have met their due diligence obligations under UNCLOS if they can show that they have followed this internationally agreed guidance. In contrast, failure to do so may raise questions about the propriety of their action.

Secondly, the parties to the London Dumping Convention have also adopted relevant decisions relating to geo-engineering, including a 2008 decision that 'ocean fertilization activities other than legitimate scientific research should not be allowed' and that such activities 'should be considered as contrary to the aims of the Convention and Protocol and not currently qualify for any exemption from the definition of dumping in […] the Convention [...].'[87] This is an important interpretation of the dumping treaties because it brings geo-engineering within their scope and this interpretation could also be applied to the definition of dumping for the purposes of UNCLOS.[88] The parties to the dumping treaties have also adopted an assessment framework for scientific research involving ocean fertilisation, which provides guidance to states on how to ensure that such research is conducted in such a manner that any risks to the marine environment are minimised.[89] The assessment framework requires an impact assessment of any proposal and urges 'utmost caution' to be exercised when authorising scientific research into ocean fertilisation.[90] Like the guidance in relation to CO_2 storage, this instrument sets an appropriate benchmark against which to determine the due diligence of a state in regulating geo-engineering.

V. CONCLUSION

This chapter has considered a range of arguments that can be made to interpret and apply UNCLOS in order to prevent, reduce and control the impacts of climate change on the marine environment. In doing so, it has analysed the interrelationship between UNCLOS and the climate change regime, but also how UNCLOS may be invoked to ensure that states take additional considerations into account when taking climate change action. It is in theory possible that the provisions discussed in this chapter could be used as a basis for an individual state to claim for damages suffered as a result of climate change or ocean acidification impacts on the oceans, but such an approach would present challenges in terms of proving causation and attributing damage to a particular state.[91] It may be more straightforward to invoke UNCLOS as a means of arguing that a particular state has failed to take appropriate climate change action with a view to ensuring that the state concerned takes more ambitious measures in order to bring itself into compliance with its legal obligations. The fact that the

[85] Document LC 34/15, annex 8.

[86] See Harrison (n 37) 268; Scott (n 76) 401.

[87] Resolution LC-LP.1(2008), para 8.

[88] UNCLOS (n 18) Article 1(5).

[89] See Resolution LC LP.2(2010). There may be further questions about what is meant by legitimate scientific research in this context; see Scott (n 82).

[90] Resolution LC LP.2(2010).

[91] See Boyle (n 36) 479-480; S Lee and L Bautista, 'Part XII of [UNCLOS] and the duty to mitigate against climate change: Making out a claim, causation and related issues' (2018) 45 *ELQ* 129, 148-149.

marine environmental provisions of UNCLOS can be considered as establishing *erga omnes* obligations would further facilitate such a claim.[92] Even then, it is clear that the target of litigation would have to be chosen with care; whereas a successful claim could send a powerful signal to the international community of the need for states to take their climate change obligations seriously, an unsuccessful outcome could undermine that message.

The availability of dispute settlement under UNCLOS does not mean that states should rush into litigation in order to demand climate change action. A long-term political solution to climate change is clearly preferable and the Paris Agreement provides the most appropriate framework within which to agree on the necessary collective action, particularly through the anticipated global stocktake exercise.[93] Nevertheless, UNCLOS litigation may be particularly attractive in two scenarios: either if the mechanisms under the Paris Agreement do not produce desired results in terms of increased pledges for GHG reductions or if states do not take adequate action to meet the commitments made under the Paris Agreement and they fail to respond to diplomatic pressure to do so. Furthermore, as noted in Part IV of this chapter, litigation may be an option in order to ensure that climate change mitigation takes into account other potential impacts on the marine environment.

Even if litigation is undertaken, the limits of this strategy must be recognised. Whereas legal action may force states to account for their conduct before an independent judicial organ, it is important to be realistic about any outcome. It has been acknowledged that litigation of this sort raises legitimacy challenges for courts and tribunals given the range of scientific, political and even moral questions implicated by climate change.[94] Most courts or tribunals are thus likely to limit themselves to finding that a state has not lived up to its due diligence obligation, whilst leaving it to the individual state to decide how to remedy the breach. In this respect, the Dutch Supreme Court has recently warned that 'in determining the State's minimum obligations, the courts must observe restraint, especially if rules or agreements are involved that are not legally binding in themselves. It is therefore only in clear-cut cases that the courts can rule […] that the State has a legal obligation to take measures.'[95] Nor is such a result uncommon in other international environmental disputes where courts have indicated that a violation of international law has taken place but it has called for the parties to reach a settlement on how to remedy the situation.[96] Therefore, we cannot expect international courts and tribunal to specify the steps that states must take to address climate change. Nevertheless, a legal decision may clarify the legal framework within which governments must exercise their decision-making powers, by indicating the considerations that must be taken into account and the limits of any discretion. Furthermore, even a judicial decision that a state must do more may be enough to overcome inertia. This observation does, however, mean that a successful claim is not necessarily the end of the matter and further diplomatic work will be required even after a successful claim. As explained by Boyle, 'an authoritative judgment may facilitate a settlement of some kind, whether directly, or by further negotiations, or simply by legitimising the claims made.'[97]

[92] Harrison (n 37) 24-25.

[93] Paris Agreement (n 3) Article 14(1).

[94] See J Peel, 'Issues in Climate Change Litigation' (2011) 1 *CCLR* 15-24.

[95] *The State of the Netherlands v Stichting Urgenda* (n44) para 6.6. UK courts have indicated a similar sentiment; see *R (on the application of Plan B) v Secretary of State for Transport* [2020] EWCA Civ 214, para 285.

[96] Eg *Icelandic Fisheries Case* (1974) ICJ Rep 3, paras 74-75; Gabcikovo-Nagymaros Case (1997) ICJ Rep 7, paras 140-141.

[97] Boyle (n 36) 459.

Finally, it should also be recognised that UNCLOS is not a panacea for climate change litigation. In particular, not all states are a party to UNCLOS, with notable absences including Iran, Venezuela, Colombia and the United States of America. Indeed, it is worth noting that the risk of climate change litigation was one of the factors that was raised by members of the Senate Foreign Affairs Committee when discussing whether or not the United States should become a party to UNCLOS.[98] UNCLOS litigation is not an option in relation to these states, even if they are in theory bound by rules of customary international law relating to the protection of the marine environment.[99]

[98] See eg comments of Senator Corker in Hearings before the Committee on Foreign Affairs of the United States Senate, One Hundred Twelfth Congress, Second Session, 23 May, 14 June, and 28 June 2012, 32.

[99] They may be bound by more specific marine treaties, however; see eg W.C.G. Burns, 'A Voice for the Fish? Climate Change Litigation and Potential Causes of Action for Impacts under the United Nations Fish Stocks Agreement' (2008) 11 *JIWLP* 30-62.